

***Annual Water Quality Report for 2018***  
***Fishkill Plains Water System***  
***Poughkeepsie & DCWWA Water System***  
***76 Wright Blvd, Hopewell Junction, NY 12533***  
***(Public Water Supply ID# 1302805)***

## **INTRODUCTION**

To comply with State regulations, Fishkill Plains Water will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact VRI Environmental Services at 845-677-3839. We want you to be informed about your drinking water.

## **WHERE DOES OUR WATER COME FROM?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. To ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the number of certain contaminants in water provided by public water systems. The State Health Department and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The Public water system serves a total population of 2050 through a total of 591 service connections; 900 of those people are located within the Fishkill Plains Water District and 1150 within the Brettview Water District within the Brettview Acres Water Co. The 258 service connections located within the Fishkill Plains Water District consist of residential homes and commercial properties. The 333 service connections located within the Brettview Acres Water Co. consist of residential homes. The Commercial properties include the Van Wyck Junior High School, the Fishkill Plains School, Brettview, Brookmeade Plaza, Summerlin Plaza and the 1203 Business Park, LLC. Our water source is from 2 groundwater wells, which are approximately 50' deep. These wells are located off of Wright Boulevard on a private lot owned by the water company. The water is chlorinated with a sodium hypochlorite solution and pumped into a storage tank. The water is then pumped from the storage tank to a pneumatic tank, which provides system pressure. The facility is also equipped with an emergency generator in case of power failures. A new green sand filter was installed in 2011 to remove iron and manganese. Last year we pumped a total of 54,997,500 gallons at an average daily usage of 150,678 gallons per day.

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See "Table of Detected Contaminants" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

The source water assessment has rated our water source as having an elevated susceptibility to microbial and nitrate contamination. These ratings are due primarily to the close proximity of the wells to permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) and the residential land use and related activities in the assessment area. In addition, the wells are located in an area which is prone to flooding.

## WHERE DOES OUR WATER COME FROM?

During July 2018 through part of December 2018, the system was using DCWWA as the alternative water source while the wells were being rehabilitated. It was suggested to have the wells rehabilitated due to production of the wells dropping significantly. The county and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning and education programs. A copy of the assessment can be obtained by contacting us, as noted above.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, nitrate, principal organic compounds, primary inorganic compounds, lead and copper, disinfection byproducts, synthetic organic compounds and radiologicals. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800) 426-4791 or the Dutchess County Department of Behavioral and Community Health at (845) 486-3404.

**Table of Detected Contaminants**

| Contaminant                     | Violation Yes/No | Date of Sample | Level Detected (Avg) (Range)  | Unit Measurement | MCLG | Regulatory Limit (MCL, AL or TT) | Likely Source of Contamination                                 |
|---------------------------------|------------------|----------------|-------------------------------|------------------|------|----------------------------------|--|
| Chlorine Residual (Entry Point) | No               | Yearly Average | 1.54<br>(Range = 1.19 – 1.96) | mg/L             | N/A  | 4.0                              | Chemical additive for the disinfection of microbes.            |
| Iron **** Well #1               | No               | 6/12/2018      | 200                           | ug/L             | N/A  | 300                              | Naturally occurring.   |
| Manganese **** Well #1          | No               | 6/12/2018      | 260                           | ug/L             | N/A  | 300                              | Naturally occurring; Indicative of landfill contamination.     |
| Iron **** Well #2               | No               | 6/12/2018      | 530                           | ug/L             | N/A  | 300                              | Naturally occurring.   |
| Manganese **** Well #2          | No               | 6/12/2018      | 320                           | ug/L             | N/A  | 300                              | Naturally occurring; Indicative of landfill contamination.     |
| Sodium                          | No               | 6/12/2018      | 56                            | mg/L             | N/A  | See Health Effects *             | Naturally occurring; Road salt; Water softeners; Animal waste. |
| Chloride                        | No               | 6/12/2018      | 110                           | mg/L             | N/A  | 250                              | Naturally occurring or indicative of road salt contamination.  |

| Contaminant           | Violation Yes/No | Date of Sample  | Level Detected (Avg) (Range) | Unit Measurement | MCLG | Regulatory Limit (MCL, AL or TT) | Likely Source of Contamination   |
|-----------------------|------------------|---|------------------------------|------------------|------|----------------------------------|--|
| Barium                | No               | 6/12/2018   | 0.038                        | mg/L             | 2    | 2                                | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.  |
| Nickel                | No               | 6/12/2018   | 0.0019                       | mg/L             | N/A  | N/A                              |  |
| Antimony              | No               | 6/12/2018   | 0.41                         | ug/L             | 6    | 6                                | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.   |
| Copper **             | No               | 8/10/2016<br>8/11/2016<br>8/12/2016<br>9/12/2016        | 229<br>(Range = 70 – 530)    | ug/L             | 1300 | AL = 1300                        | Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.  |
| Lead ***              | No               | 8/10/2016<br>8/11/2016<br>8/12/2016<br>9/12/2016        | 4.95<br>(Range = ND – 15)    | ug/L             | 0    | AL = 15                          | Corrosion of household plumbing systems; Erosion of natural deposits.  |
| POC – MTBE Well #1    | No               | 3/26/2018<br>6/12/2018                                  | 0.648<br>0.54                | ug/L             | N/A  | 10                               | Releases from gasoline storage tanks. MTBE is an octane enhancer in unleaded gasoline. Atmospheric deposition.   |
| Nitrate               | No               | 3/26/2018<br>6/12/2018<br>12/13/2018                    | 0.618<br>0.69<br>0.54        | mg/L             | 10   | 10                               | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits  |
| Haloacetic Acids      | No               | 3/29/2018<br>6/19/2018<br>9/19/2018 *****<br>12/18/2018 | 18.06<br>15.6<br>53<br>3.4   | ug/L             | N/A  | 60                               | By-product of drinking water disinfection needed to kill harmful organisms.  |
| Total Trihalomethanes | No               | 3/29/2018<br>6/19/2018<br>9/19/2018 *****<br>12/18/2018 | 34.4<br>42<br>130<br>15      | ug/L             | N/A  | 80                               | By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter. |

| Contaminant             | Violation Yes/No | Date of Sample | Level Detected (Avg) (Range) | Unit Measurement | MCLG | Regulatory Limit (MCL, AL or TT) | Likely Source of Contamination        |
|-------------------------|------------------|----------------|------------------------------|------------------|------|----------------------------------|---------------------------------------|
| Total Coliform Bacteria | No               | 6/27/2018      | 1 Positive Sample            | n/a              | 0    | Level 2 Assessment               | Naturally present in the environment. |
| E. Coli                 | Yes              | 6/27/2018      | 1 Positive sample            | n/a              | 0    | Level 2 Assessment               | Human and animal fecal waste.         |

#### Footnotes:

\* Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

\*\* The level presented represents the 90th percentile of the 11 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 11 samples were collected at your water system and the 90th percentile value is the reported value. The action level for copper was not exceeded at any of the sites tested.

\*\*\* The level presented represents the 90th percentile of the 11 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, 11 samples were collected at your water system and the 90th percentile value is the reported value. The action level for lead was met at one of the sites tested.

\*\*\*\* Samples are from the raw well water before Greensand filters are used. All Entry Point Iron and Manganese samples are Non-Detect.

\*\*\*\*\* Samples collected during alternative water source online.

#### Definitions:

**N/A-** Means not applicable

**Non - Detects (ND)** - Laboratory analysis indicates that the constituent is not present.

**Milligrams per liter (mg/l)** – Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

**Micrograms per liter (ug/l)** – Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb).

**Action Level (AL)** - The concentrations of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

**Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible.

**Maximum Contaminant Level Goal (MCLG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety

**Maximum Residual Disinfectant Level (MRDL)** – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants

**Maximum Residual Disinfectant Level Goal (MRDLG)** – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination

**Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.

**Picocuries per liter (pCi/L)** – A measure of the radioactivity in water.

## **WHAT DOES THIS INFORMATION MEAN?**

The table shows that our system uncovered some problems this year. There was an E. Coli MCL violation that required a Level 2 Assessment. The duration of this violation was within a couple of days. We corrected the action by resampling different locations within the distribution system. The Level 2 Assessment can be found on the Town's website at <http://www.eastfishkillny.gov> and is also available for review at the Health Department via the Freedom of Information Law (FOIL).

**Health Effects for Total Coliform Bacteria** – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution.

**Health Effects for E.Coli** – E.coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants and young children. It is possible that lead levels at your home may be higher than at other homes in the community because of materials used in your home's plumbing. Fishkill Plains Water is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

## **IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?**

In June of 2018, as shown above, our system had an E. Coli MCL violation. While testing improvements to the distribution system, coliform was found in a sample taken in the distribution system. Follow up samples found E. Coli bacteria to be present in one sample. The Town investigated the problem, flushed the system, and raised chlorine levels to resolve the coliform problem. Subsequent sampling showed the system was clean.

## **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the State Drinking Water Hotline (800-426-4791).

## **WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ♦ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ♦ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ♦ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ♦ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ♦ Turn off the tap when brushing your teeth.
- ♦ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.

- ♦ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

## **CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have any questions.

## Revised Total Coliform Rule Level 2 Assessment Form

|                          |                       |                        |  |
|--------------------------|-----------------------|------------------------|--|
| Public Water System Name | Date Trigger Exceeded | Date of Assessment     | Source Water Type(s)                                 |
| Fishkill Plains          | 06/27/2018            | 06/29/2018             | <input type="checkbox"/> Surface                     |
| Public Water System ID # | County                | Town, Village, or City | <input checked="" type="checkbox"/> Ground           |
| NY 1 3 0 2 8 0 5         | Dutchess              | East Fishkill          | <input type="checkbox"/> GWUDI                       |
|                          |                       |                        | <input type="checkbox"/> Purchase with chlorination  |
|                          |                       |                        | <input type="checkbox"/> Purchase w/out chlorination |

### Section A – System Evaluation

Review and evaluate all of the elements listed (#1 - #6). Identify any potential causes of contamination and check all that apply. Each section requires a response. Describe each issue and any corrective actions taken in detail, in sections B and C.

#### 1. GENERAL

If any answers are marked "Yes" in questions a. through h. of this section, provide comments in Section B.

Have any of the following occurred prior to collection of TC samples at related facilities within the PWS?

- |  |   |  |
|--|---|--|
| a. Were there any recent operation and/or maintenance activities that could have introduced total coliforms?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |
| b. Has there been any vandalism and/ or unauthorized access to facilities?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| c. Are there any visible indicators of unsanitary conditions observed?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| d. Has there been any recent community illness suspected of being waterborne (e.g., local public health official has confirmed that an outbreak occurred.) | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| e. Did the water system receive any total coliform monitoring violations in the past 12 months? If yes, when?<br>(Provide comments in Section B)           | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| f. Has there been any recent heavy rainfall?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| g. Has there been any recent rapid snow melt or flooding?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| h. Has there been any recent extremes in <b>heat</b> or cold?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |
| i. What was the most recent date on which satisfactory total coliform samples were taken?  | Date: 06/09/2018                        |  |

Other comments on records and maintenance.

1a. On June 14, 2018, the Town of East Fishkill performed improvements to the distribution system of Fishkill Plains without the approval of the Dutchess County Department of Behavioral and Community Health (DCDBCH). This work was performed without approval while a plan review was ongoing. The work performed without approval was the installation of a tee to a new hydrant. In order to connect the tee, the Town of East Fishkill closed two valves which cut off the supply of water and subsequently the system pressure to a number of residential and commercial properties located on Van Wyck Lane, Lake Walton Road, Lexington Drive, Cambridge Court and Neville Road. During the 1st round of plan review & also emails, DCDBCH expressed concerns about the loss of pressure to these areas and requested that provisions be made to provide a boil water advisory and collect bacteria samples in these areas before service to those areas could be resumed. The Town of East Fishkill ignored DCDBCH concerns, performed the work without DCDBCH approval, did not issue a boil water advisory and did not take confirmation bacteria samples until 6/25/2018 (11 days after the installation). Confirmation samples taken on 6/25/2018 resulted in a positive (+) result for Total Coliform and a negative (-) result for E. Coli at 14 Lexington Drive. Follow up samples taken on 6/27/2018 resulted in a positive (+) result for Total Coliform and a positive (+) result for E. Coli at 3 Cambridge Court which triggered this assessment.

## 2. SAMPLE SITE and SAMPLE PROTOCOL

If any answers are marked "Yes" for questions a. through d. provide comments in Section B.

If any answers are marked "No" for questions e. through g. provide comments in Section B.

- a. Have there been any plumbing changes or construction after the service connection or in the premise plumbing?  
If yes, when and what was the repair or change? Yes ☒ No ☐
- b. Have there been any plumbing breaks or failures after the service connection or in the premise plumbing?  
If yes, when? Yes ☒ No ☐
- c. Were there any low pressure events or changes in water pressure after the service connection or in the premise plumbing? If yes, when? Yes ☐ No ☒
- d. Are there any treatment devices after the service connection or in premise? Yes ☒ No ☐
- e. Have the sample site plan and sample protocols been followed and reviewed? Yes ☒ No ☐
- f. Were all of the backflow prevention devices present, operational, and maintained? Yes ☐ No ☒
- g. Were the appropriate sampling protocols used (Flush tap, remove aerator, no swivel, fresh sample bottles, and sample storage acceptable)? Yes ☐ No ☒
- h. What is the overall condition of the tap?  
(Provide comments) Area around aerator appeared to have a buildup of corrosion, calcium or lime.
- i. What is the location of the tap?  
(Provide comments) First Floor bathroom sink in hallway near front entrance.
- j. What is the regular use of the tap?  
(Provide comments) Hand washing. Homeowner mentioned that they garden regularly.
- k. List any identified cross connections after the service connection or in premise plumbing.  
(Provide comments) Irrigation system installed without apparent backflow prevention device.

Other comments on records and maintenance.

2a. Irrigation System Installed without apparent backflow prevention device.

2b. Hot Water Heater hose leak per owner 2 to 3 weeks prior to 7/10/2018

2d. Water Softener

2e. See response to 2a.

2g. Sample taken at bathroom tap. Aerator was not removable. Tap flamed before sampling.

SEE ATTACHED PICTURES

### 3. DISTRIBUTION SYSTEM

If any answers are marked "Yes" for questions a. through k. provide comments in Section B.

If any answers are marked "No" for questions l. through n. provide comments in Section B.

- |  |   |  |
|--|---|--|
| a. System pressure: Is there evidence that the system experienced low or negative pressure in the area of the positive samples? If yes, when?    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                |
| b. Pump station (if applicable): Are there any sanitary defects in the pump station?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| c. Was there any scheduled flushing of the distribution system? If yes, when?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| d. Fire hydrant/blow off: Are any of these devices located in an area with a high water table or in pits?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| e. Has there been any fires in the area?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| Does the fire department use any nearby hydrants for practice?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| Has routine flushing been performed recently?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| f. Have there been any recent repairs or additions in the area of the positive samples? If yes, when, and what was the repair or addition?       | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                |
| g. Have there been any recent water main breaks? If yes, when?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| h. Are there any known areas of leaks in the distribution system? If so, where?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| i. Are there sections of the distribution system with very low or no water use? (ex. vacant manufacturing areas)                                 | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>     |
| j. Vaults: Is the vault subject to flooding?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> N/A |
| k. Vaults: Does the air vent terminate below grade?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> N/A |
| l. Vaults: Is the air vent screened?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> N/A            |
| m. Vaults: Is the vent downturned?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> N/A            |
| n. Are the backflow prevention devices at nearby high risk sites present, operational and maintained?<br>(If no, provide comments in Section B.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> N/A            |
| o. Last pump (booster stations) maintenance/service date.  | Date:                                   |  |

Other comments on the distribution system.

3a. & 3f. On June 14, 2018, the Town of East Fishkill performed improvements to the distribution system of Fishkill Plains without the approval of the Dutchess County Department of Behavioral and Community Health (DCDBCH). This work was performed without approval while a plan review was ongoing. The work performed without approval was the installation of a tee to a new hydrant. In order to connect the tee, the Town of East Fishkill closed two valves which cut off the supply of water and subsequently the system pressure to a number of residential and commercial properties located on Van Wyck Lane, Lake Walton Road, Lexington Drive, Cambridge Court and Neville Road. During the 1st round of plan review & also emails, DCDBCH expressed concerns about the loss of pressure to these areas and requested that provisions be made to provide a boil water advisory and collect bacteria samples in these areas before service to those areas could be resumed. The Town of East Fishkill ignored DCDBCH concerns, performed the work without DCDBCH approval, did not issue a boil water advisory and did not take confirmation bacteria samples until 6/25/2018 (11 days after the installation). Confirmation samples taken on 6/25/2018 resulted in a positive (+) result for Total Coliform and a negative (-) result for E. Coli at 14 Lexington Drive. Follow up samples taken on 6/27/2018 resulted in a positive (+) result for Total Coliform and a positive (+) result for E. Coli at 3 Cambridge Court which triggered this assessment.

SEE ATTACHED PICTURES AND MAPS

#### 4. STORAGE TANK(S)

If any answers are marked "Yes" for questions a. through d. provide comments in Section B. If any answers are marked "No" for questions e. through h. provide comments in Section B.

- |   |   |  |
|---|---|--|
| a. Has there been any recent facility maintenance? (i.e. painting/coating) If yes, when?                        | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>       |
| b. Are there any unsealed openings in the storage facility such as access doors, vents or joints?               | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>       |
| c. Are there any observed leaks?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>       |
| d. Physical condition of the tank – Are there any observed holes in the tank that could allow contamination in? | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>       |
| e. Is adequate O&M being performed per AWWA schedule?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                  |
| f. Are the overflow and vents properly screened?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                  |
| g. Is the vent properly screened and covered?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                  |
| h. Does the drain/overflow line terminate a minimum of 12" above the ground?                                    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                  |
| i. What is the measured chlorine residual (total/free) of the water exiting the storage tank today?             | Residual: 1.7                           |  |
| j. Does the tank have a combined inlet/outlet or are there separate inlet and outlet lines?                     | Combined <input type="checkbox"/>       | Separate <input checked="" type="checkbox"/> |

Other comments on the storage tank(s).

4e. Per owner representative & operator.

4g. Per owner representative & operator. Equipment not available to climb tank at time of inspection.

4i. The plant is currently not operating due to ongoing well rehabilitation. The residual shown was reported on the last day of plant operation on 07/03/2018.

#### 5. TREATMENT PROCESS

If any are marked "Yes" for questions a. through f. provide comments in Section B.

- |   |   |  |
|---|---|--|
| a. Was there any recent installation or repair of treatment equipment?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| b. Were there any recent changes in the treatment process? If yes, when, and what was the change?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| c. Were there any interruptions of treatment (lapses in chemical feed, turbidity excursions, disinfection)? If yes which part, when and for how long? | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| d. Did a review of the compliance turbidity readings reveal any anomalies?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| e. Were there any failures to meet the CT calculations?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| f. Were the flow rates above the rated capacity?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| g. Are treatment devices operational and maintained? (If no, provide comments in Section B.)  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |
| h. What is the free chlorine residual measured at the point where CT is calculated?   | Residual: 1.7                           |  |

Other comments on the treatment process.

5h. The plant is currently not operating due to well rehabilitation. The residual shown was reported on the last day of plant operation on 07/03/2018.

SEE ATTACHED PICTURES

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## 6. SOURCE

### General

- a. Have any inactive sources recently been introduced into the system (e.g., emergency/auxiliary sources)?  
(If yes, provide comments in Section B.) Yes ☒ No ☐
- b. Have there been any new sources introduced into the system?  
(If yes, provide comments in Section B.) Yes ☐ No ☒

### Well

If any questions are marked "Yes" in questions a. through c. provide comments in Section B.  
If any questions are marked "No" in questions d. through f. provide comments in Section B.

- a. Are there any unprotected cross connections at the wellhead(s)? Yes ☐ No ☒
- b. Is there evidence of standing water near the wellhead(s)? Yes ☐ No ☒
- c. Have there been any sewage spills, chemical spills or other disturbances near the well(s)? Yes ☐ No ☒
- d. Is the casing in good condition with no evidences of breaks? Yes ☒ No ☐
- e. Are well caps vented? Yes ☐ No ☒
- f. Do all wells meet the construction standards in Appendix 5-B? Yes ☐ No ☒

Other comments on the well system.

**Wells were recently fitted with pressure transducers to determine source levels.**

- f. Per 5-B.3(b)(7): Wells casing and screens not properly maintained as evidenced by corrosion.  
Per 5-B.5(e): No vents, 5-B.7(Table 1): Wells built within NYSDEC wetland.

---

### Spring **N/A**

- a. What is the condition of the area surrounding the spring box?  
(Provide comments)
- b. What is the condition of the spring box (Used to collect flow from spring; should be water tight vermin-proof)?  
(Provide comments)
- c. Are overflow pipes screened?  
(If no, provide comments in Section B.) Yes ☐ No ☐

Other comments on the spring system.

---

### Surface Water Supply **N/A**

If any are marked "Yes" in questions a. through c. provide comments in Section B.

- a. Have there been any sewage spills, chemical spills or other disturbances near the source? Yes ☐ No ☐
- b. Has source water turnover occurred recently? Yes ☐ No ☐
- c. Have there been any recent algal blooms near the intake? Yes ☐ No ☐

Other comments on the surface water supply.

## Section B – Issue Description

In this section, use the space provided to describe the event and provide additional information on potential causes of contamination identified during the assessment. Include corresponding dates whenever possible. If more space is needed attach additional sheets of paper.

Email chain attached.

☐ Check this box if there were no known causes for this contamination.

## Section C – Corrective Action Taken or to be Taken

In this section, describe corrective actions (completed or proposed), and any additional measures the public water system plans to implement prior to the completion of any corrective actions, including specific dates. If more space is needed attach additional sheets of paper.

Boil water Notice issued on 06/28/2018, system flushed 06/29/2018, bacteria samples taken on 06/29/2018 & 06/30/2018, Boil water notice lifted on 07/02/2018. Correspondence and sample results attached. Must provide backflow prevention on irrigation system at 3 Cambridge & others.

## Certification

Please fill in the information below after completing this form.

Print name Jim Teed

Date 07/11/2018

Signature



### Reserved for State (or Local Health Department) Use Only

- |   |   |                             |
|---|---|-----------------------------|
| 1. Assessment has been successfully completed           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| 2. Likely reason total coliform positives is identified | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| 3. System has corrected the problem                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |

4. Name of State (Local Health Department) Reviewer

Peter Marlow

Additional Notes

Refer to email correspondence and samples results for further information.

## Directions

1. Completely fill in the public water supply information in the first section of the form, including: Public Water Supply Name, Public Water Supply ID #, Date Trigger Exceeded, Date of Assessment, County, Town, Village/City, Source Water Type(s)
2. This form must be completed based on data and documents available to the Public Water System and maintained on file for a minimum of five years.
3. Complete all sections (A – C) and check each item that applies. If no issue was identified, check the appropriate box.
4. Sign and date the form.
5. This form must be completed by the State (Local Health Department) within 30 days of a Public Water System triggering a Level 2 Assessment.
6. A completed copy of this form shall be given to the Public Water System.

***Annual Drinking Water Quality Report for 2018***  
***Central Dutchess Water Transmission Line***  
***21 Page Park Dr.***  
***Poughkeepsie, NY 12603***  
***(Public Water Supply ID#1330640)***

## **INTRODUCTION**

To comply with State regulations, the Central Dutchess Water Transmission Line (CDWTL), will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, we conducted tests for all required regulated contaminants. Of those contaminants, none were detected at a level above the respective MCL. There were no water quality MCL violations in 2018 in the CDWTL system. Our water no longer exceeds the drinking water standard for lead at the Hudson Valley Research Park. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact the Dutchess County Water and Wastewater Authority at (845) 486- 3601. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled board meetings. The meetings are generally held on the third Wednesday of each month. The meetings begin at 4:00 pm and take place in the conference room at 1 LaGrange Avenue, Poughkeepsie, NY. Please call our office at (845) 486-3601 or check the Dutchess County Water and Wastewater Authority website for agenda details and any last-minute meeting date or time changes.

## **WHERE DOES OUR WATER COME FROM?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. To ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water system serves approximately 4500 people through two service connections and two consecutive public water systems (Hopewell Glen-NY1330699 and Globalfoundries NY1316552). Our water source originates at the Poughkeepsie Water Treatment Facility (PWS # 1302774). A copy of their AWQR is attached for reference. The sole source of water for the Poughkeepsie Water Treatment Facility (PWTF) is the Hudson River (surface water) The plant is located along the Hudson River within the Marist College Campus on Route 9. The raw river water is drawn from the Hudson River adjacent to the PWTF, approximately 1000 feet from the shore at a depth of 48 feet below the mean river elevation. The PWTF utilizes a conventional filtration process. After filtration is completed, the water is aerated to improve taste. It is then disinfected using ultraviolet light and a carefully monitored chlorination process. Orthophosphate and Sodium Hydroxide are added to the water to reduce corrosion of customer piping and fixtures. After the water has been treated, it is delivered to the Poughkeepsie Town wide Water District (PWS # NY1302812), and then delivered to the CDWTL customers via the CDWTL. A constant pressure is provided by a series of booster pumps. The levels of chlorine and turbidity are continuously monitored at the Pump Station, located at 21 Page Park Drive, in Poughkeepsie. Chlorine is added at the Pump Station as needed to adjust the

chlorine residuals to the required concentrations. Daily sampling and analysis for these parameters are also performed at the entry points to the Global Foundries site and the Hopewell Glen development.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, lead and copper, volatile organic compounds, total trihalomethanes, and halo acetic acids. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Dutchess County Department of Behavioral and Community Health at 845-486-3404

| Table of Detected Contaminants          |                  |                |                              |                  |      |                                  |   |
|---|------------------|----------------|------------------------------|------------------|------|----------------------------------|---|
| Contaminant                             | Violation Yes/No | Date of Sample | Level Detected (Avg) (Range) | Unit Measurement | MCLG | Regulatory Limit (MCL, TT or AL) | Likely Source of Contamination                                |
| <b>Turbidity</b>                        |                  |                |                              |                  |      |                                  |   |
| Pump Station Influent (1)               | No               | Daily          | 0.14<br>(0.08 -0.32)         | NTU              | 0    | < 5.0                            | Soil runoff and Hydrant flushing                              |
| Global Foundries Entry Point (1)        | No               | Daily          | 0.21<br>(0.07- 1.99)         | NTU              | 0    | < 5.0                            | Soil runoff and Hydrant flushing                              |
| <b>Free Chlorine</b>                    |                  |                |                              |                  |      |                                  |   |
| Pump Station Influent                   | No               | Daily          | 1.49<br>(0.08 – 2.26)        | mg/l             | N/A  | < 4.0                            | Added for disinfection  |
| Global Foundries Entry Point            | No               | Daily          | 1.13<br>(0.38-1.68)          | mg/l             | N/A  | < 4.0                            | Added for disinfection  |
| <b>Disinfection Byproducts</b>          |                  |                |                              |                  |      |                                  |   |
| <b>Halo acetic acids HAA5 (4)</b>       |                  |                |                              |                  |      |                                  |   |
| Global Foundries Entry Point            | No               | Quarterly      | 25.9<br>(18.1-40.6)          | ug/l             | 0    | 60                               | Byproduct of disinfection                                     |
| Hopewell Glen Entry point               | No               | Quarterly      | 23.9<br>(15.6-40.2)          | ug/l             | 0    | 60                               | Byproduct of disinfection                                     |
| CDWTL Entry point                       | No               | Quarterly      | 24.3<br>(13.5-30.7)          | ug/l             | 0    | 60                               | Byproduct of disinfection                                     |
| <b>Total Trihalomethanes (TTHM) (4)</b> |                  |                |                              |                  |      |                                  |   |
| Globalfoundries Entry Point             | No               | Quarterly      | 42.3<br>(22.8-74.0)          | ug/l             | 0    | 80                               | Byproduct of disinfection                                     |
| Hopewell Glen Entry point               | No               | Quarterly      | 40.3<br>(20-72.4)            | ug/l             | 0    | 80                               | Byproduct of disinfection                                     |
| CDWTL Entry point                       | No               | Quarterly      | 31.5<br>(21.9-39.4)          | ug/l             | 0    | 80                               | Byproduct of disinfection                                     |
| Contaminant                             | Violation Yes/No | Date of Sample | Level Detected (Avg) (Range) | Unit Measurement | MCLG | Regulatory Limit (AL)            | Likely source of Contamination                                |
| <b>Inorganic Contaminants</b>           |                  |                |                              |                  |      |                                  |   |
| Lead (3)                                | No               | May 2018       | 0<br>(0-0)                   | ug/l             | 0    | 15                               | Erosion of natural deposits and corrosion of plumbing systems |
| Copper (2)                              | No               | May 2018       | 0.009<br>(<0.004 - .056)     | mg/l             | 0    | 1.3                              | Erosion of natural deposits and corrosion of plumbing systems |

1 – Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of the filtration system. State regulations require that turbidity must always be below 5 NTU.

2 – The level presented represents the 90th percentile of the 20 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case 20 samples were collected at your water system and the 90th percentile value was 0.010 mg/l. The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the 20 samples collected. In this case 20 samples were collected at your water system and the 90<sup>th</sup> percentile value was <1 ug/l. The action level for lead was not exceeded at any of the 20 sites tested.

4 – This level represents the annual quarterly average calculated from data collected.

## Definitions:

**Maximum Contaminant Level (MCL)**: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

**Maximum Contaminant Level Goal (MCLG)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL)**: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)**: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**Action Level (AL)**: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Treatment Technique (TT)**: A required process intended to reduce the level of a contaminant in drinking water.

**Non-Detects (ND)**: Laboratory analysis indicates that the constituent is not present.

**Nephelometric Turbidity Unit (NTU)**: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Milligrams per liter (mg/l)**: Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

**Micrograms per liter (ug/l)**: Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

## WHAT DOES THIS INFORMATION MEAN?

The table shows that our system continues to be successful in lowering the lead levels in you system. Lead levels were not above the Action Level in any of the 20 samples taken from the water system. We remain in compliance of the Action Level for lead in Drinking water. We are required to present the following information on lead in Drinking water.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. . *Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population.* It is possible that lead levels where you work may be higher than at other workplaces in the community as a result of materials used in your workplace plumbing. Dutchess County Water and Wastewater Authority is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

## **IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?**

During 2018 the CDWTL was in compliance with all applicable State drinking water operating, monitoring, and reporting requirements.

## **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Although our drinking water met or exceeded most state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, *Giardia*, and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791)

## **WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water you are using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ◆ Check every faucet in your office for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

Thank you for allowing us to continue to provide you with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

**ANNUAL WATER QUALITY REPORT FOR CALENDAR YEAR 2018**  
**CITY OF POUGHKEEPSIE**  
**26 Howard Street**  
**Poughkeepsie, New York**  
**Federal Public Water Supply ID #NY1330291**

**Introduction:**

To comply with State regulations, the City of Poughkeepsie annually issues this report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. Sampling and analyses are carried out routinely as directed by the Dutchess County Health Department and the New York State Department of Health and currently meet the drinking water standards.

We want you to be informed about your drinking water. If you have any questions about this report or concerning your drinking water, please contact Joseph Kane, Water Distribution Operator, at the City of Poughkeepsie Department of Public Works, at (845) 451-4192, or the Dutchess County Health Department at (845) 486-3404. If you want to learn more, please attend any of the regularly scheduled Joint Water Board meetings held the first Tuesday of every month in the conference room at the Poughkeepsies' Water Treatment Facility (behind Marist College). For further information about the Poughkeepsies' Water Treatment Facility, telephone the Joint Water Board Administrator, Randy Alstadt at (845) 451-4173, ext. 2003. You may also visit the Poughkeepsies' Water Treatment Facility website at <http://www.cityofpoughkeepsie.com/watertreatment>. This report can be found on the City of Poughkeepsie's web site <http://www.cityofpoughkeepsie.com/departments/dpw/waterdistribution>.

**Where Does Our Water Come From?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The source of water for the City of Poughkeepsie is treated surface water (Hudson River) which is purchased from the jointly owned town and city treatment plant, Poughkeepsies' Water Treatment Facility. The Poughkeepsies' Water Treatment Facility utilizes conventional, state of the art, filtration process to treat the water supply. This process includes chemical application of polyaluminum chloride to stabilize the small particles in the raw water supply. Once stabilized, the particles are combined with an organic polymer and previously settled solids, then slowly mixed to form larger particles. The larger particles are then removed through settling. Following the settling process, the water is filtered through activated carbon and sand media that polishes the final product. Beginning in September 2016 the treatment plant upgrades were completed and an Ozone treatment process was implemented after settling and before filtration. This process was added to reduce disinfection byproduct formation. Disinfection, the process used to kill disease producing organisms, is accomplished through application of ultraviolet light followed by a carefully monitored chlorination process. Post treatment includes the addition of phosphoric acid and sodium hydroxide. Phosphoric acid is added at 2.3 mg/L to reduce corrosion of customer's lead piping and fixtures. Sodium hydroxide is added when necessary to increase the treated water to a pH of 7.7 in effort to minimize corrosion of pipes within the distribution system and customers plumbing.

**Facts and Figures**

In 2018 a total adjusted volume of 1,575,611,942 gallons of potable water was supplied to the City of Poughkeepsie's water distribution system from the Poughkeepsies' Water Treatment Facility. A total of 895,823,158 gallons was Authorized Consumption and 679,788,784 gallons were Water Losses. Of that Water Loss, 8,302,682 gallons were Apparent Losses and 671,486,102 gallons or approximately 270 gallons per service connection per day, were Real Losses. Real Losses includes water loss at existing storage tank, surveyed and non-surveyed water main and service connection leak detection. In addition, Water Losses also includes unaccounted for metering inaccuracies, unaccounted for authorized consumption, unaccounted for apparent losses and firefighting. The City of Poughkeepsie is currently in the process of identifying the source(s) of water loss utilizing both internal and consultant based efforts. All value reporting is based on AWWA Best Practices.

**Water Cost**

In 2018 the City of Poughkeepsie billed its users based on quarterly water meter readings at the rate of \$4.30 per 100 cubic feet of water (or 750 gallons).

**Facility Modification**

No facility modifications were made in 2018.

**Are there contaminants in our drinking water?**

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: Total Coliform Bacteria, Turbidity, Orthophosphate, Lead and Copper, Residual Chlorine, Bromate, Total Trihalomethanes and Haloacetic Acids.

The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one-year-old.

The test data presented in this report cover solely the City of Poughkeepsie distribution system. An addendum to this report contains data from the Poughkeepsies' Water Treatment Facility. Additional information about the water supplied by the Poughkeepsies' Water Treatment Facility may be found in the Annual Water Quality Report published by the Joint Town/City Water Board.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791, or the Dutchess County Health Department at 845-486-3404, or by viewing the EPA drinking water website, [www.epa.gov/safewater](http://www.epa.gov/safewater), and the New York State Health Department website, [www.health.ny.gov](http://www.health.ny.gov).

### Salt Front Information

Our water is taken from the Hudson River Estuary, which is subject to increased chloride and sodium levels during low rainfall periods. In 2018, the facility did not experience a salt front episode (defined by USGS as chloride levels exceeding 100 mg/L). Our raw water was tested for sodium 12 times in 2018 with values from 19 mg/L to 37.4 mg/L and an average of 26 mg/L. If specific conductivity triggers were met, additional sodium analysis would take place.

During normal water years the sodium level varies from 15 – 25 mg/L with higher levels occurring during periods of low rainfall.

**Customers who are on a salt restricted diet should consult with their physician concerning salt in their drinking water.** Information concerning sodium levels in your water can be obtained at any time by contacting the Water Plant Administrator, Randy Alstadt, at 451-4173 x 2003.

### EPA's Unregulated Contaminant Monitoring Rule 3 (UCMR3) and Rule 4 (UCMR4)

The purpose of the Unregulated Contaminant Monitoring Rule is to assist the EPA in determining the occurrence of suspected contaminants in drinking water and whether regulation is required. Every five years a new list suspected contaminants is developed. The contaminants are not regulated by the EPA or state and therefore do not currently have set drinking water standards. In 2014, the City of Poughkeepsie participated in the fourth and final round of UCMR3 sampling. In 2018, UCMR4 testing began in November. Contaminants detected are listed in the table. For more information on the testing and results please contact the department manager listed at the beginning of this report.

| Table of Detected Contaminants, City of Poughkeepsie, 2018  |                  |  |  |                     |      |                                   |  |
|---|------------------|--|--|---------------------|------|-----------------------------------|--|
| Water Distribution System   |                  |  |  |                     |      |                                   |  |
| Contaminant   | Violation Yes/No | Sample Date(s) month/year                    | Level Detected   | Unit of Measurement | MCLG | Regulatory Limit                  | Likely Source of Contamination   |
| <b>Lead and Copper Monitoring</b>   |                  |  |  |                     |      |                                   |  |
| Copper  | No               | 11/16 thru 01/17                             | 0.080 <sup>1</sup><br>Range =<br>ND to 0.888   | mg/L                | 1.3  | AL=1.3                            | Corrosion of household plumbing systems; erosion of natural deposits.  |
| Lead  | No               | 11/16 thru 01/17                             | 2 <sup>2</sup><br>Range =<br>ND to 60  | ug/L                | 0    | AL = 15                           | Corrosion of household plumbing systems, erosion of natural deposits   |
| <b>Inorganic Contaminants</b>   |                  |  |  |                     |      |                                   |  |
| Orthophosphate (reported as Phosphorus)   | N/A              | 1per week                                    | Average = 0.76<br>Range =<br>0.67 to 0.88  | mg/L                | N/A  | N/A                               | Orthophosphate is added at the Poughkeepsies' Water Treatment Facility to inhibit corrosion of lead piping in the distribution system.                   |
| Turbidity   | No               | 5 per week                                   | Average = 0.14<br>Range =<br>ND to 1.79  | NTU                 | N/A  | MCL = 5.0 <sup>3</sup>            | Soil runoff  |
| <b>Disinfection Byproducts</b>  |                  |  |  |                     |      |                                   |  |
| Free Chlorine Residual  | No               | Minimum of 40 per month                      | Average = 1.22<br>Range =<br>0.07 to 2.20  | mg/L                | N/A  | MCL = 4 <sup>4</sup>              | Water additive used to control microbes.   |
| Total Trihalomethanes (TTHMs -- chloroform, bromo-dichloromethane, dibromochloromethane, and bromoform) | No               | 02/14/17<br>05/09/17<br>08/08/17<br>11/14/17 | Stage 2 Calculation <sup>5</sup><br>Highest LRAA = 41<br>(Range of detects = 22 – 49.9)    | ug/L                | N/A  | MCL = 80 for four-quarter average | By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter. |
| Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)              | No               | 02/14/17<br>05/09/17<br>08/08/17<br>11/14/17 | Stage 2 Calculation <sup>5</sup><br>Highest LRAA = 25.1<br>(Range of detects = 9.3 – 28.7) | ug/L                | N/A  | MCL = 60 for four-quarter average | By-product of drinking water disinfection needed to kill harmful organisms.  |

| <b>Unregulated Contaminant Monitoring Rule (UCMR3)</b> |    |                               |  |      |     |     |  |
|--|----|-------------------------------|--|------|-----|-----|--|
| Strontium  | No | 5/14<br>8/14<br>11/14         | Average = 151<br>Range =<br>132 to 182       | ug/L | N/A | N/A | Naturally-occurring element in soil and bedrock and may dissolve entering groundwater; commercially used in making ceramics and glass products, pyrotechnics, paint pigments, fluorescent lights, and medicines. |
| Chlorate   | No | 5/14<br>8/14<br>11/14         | Average = 265<br>Range =<br>130 to 530       | ug/L | N/A | N/A | By-product of drinking water disinfection when sodium hypochlorite or chlorine dioxide is used   |
| Vanadium   | No | 5/14<br>8/14<br>11/14         | Average = 0.27<br>Range =<br>0.24 to 0.32    | ug/L | N/A | N/A | Erosion of natural deposits; found in fossil fuels   |
| Hexavalent Chromium                                    | No | 5/14<br>8/14<br>11/14         | Average = 0.079<br>Range =<br>0.061 to 0.100 | ug/L | N/A | N/A | Erosion of natural deposits; Discharge from steel and pulp mills   |
| Chromium   | No | 5/14<br>7/14<br>8/14<br>11/14 | Average = 0.25<br>Range =<br>0.2 to 0.33     | ug/L | 100 | 100 | Discharge from steel and pulp mills; Erosion of natural deposits   |
| Bromochloroacetic acid                                 | No | 11/14/18                      | Average = 2.78<br>Range = 2.4 to 2.98        | ug/L | N/A | N/A | By-product of drinking water disinfection needed to kill harmful organisms.  |
| Bromodichloroacetic acid                               | No | 11/14/18                      | Average = 4.2<br>Range = 3.6 to 4.6          | ug/L | N/A | N/A | By-product of drinking water disinfection needed to kill harmful organisms.  |
| Chlorodibromoacetic acid                               | No | 11/14/18                      | Average = 0.75<br>Range = 0.738 to 0.775     | ug/L | N/A | N/A | By-product of drinking water disinfection needed to kill harmful organisms.  |

#### Footnotes:

1. The level presented represents the 90th percentile of the sites tested for copper.
2. The level presented represents the 90th percentile of the sites tested for lead. The action level was exceeded at one of the locations tested.
3. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration system of the Poughkeepsie's Water Treatment Facility. In accordance with State regulations for distribution systems, we test for turbidity 5 days/week, 52 weeks/year. Results are reported for the year. Since the City purchases its water from the Poughkeepsie's Water Treatment Facility, Treatment Technique regulations do not apply to the City's distribution system. State regulations for distribution systems require that the monthly average for turbidity must be below 5 NTU.
4. The value reported represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
5. The regulation requires a Locational Running Annual Average (LRAA) be calculated at each site by averaging the results of the 4 most recent quarters. The LRAA reported in this table is the highest LRAA obtained in 2018.

#### Definitions:

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**CFU/100 mL:** Colony Forming Units per 100 milliliters of sample.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**Milligrams per liter (mg/L):** corresponds to one part of liquid in one million parts of liquid (parts per million -- ppm).

**Micrograms per liter (ug/L):** corresponds to one part of liquid in one billion parts of liquid (parts per billion -- ppb).

**N/A:** Not Applicable.

**ND (Non-Detects):** Laboratory analysis indicates that the contaminant is not present.

**Nephelometric Turbidity Unit (NTU):** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**90th Percentile Value:** The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

**Running Annual Average (RAA):** This value is determined by first calculating the quarterly average of all 4 locations sampled and then averaging the 4 most recent quarterly averages.

**Locational Running Annual Average (LRAA):** This value is determined by averaging the 4 most recent quarterly results from one location.

#### **What does this information in the table mean?**

As you can see by the table, our system had no violations in 2018. We learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the state.

#### **Information on Lead**

We must provide information on lead in drinking water even though our last round of testing showed no problems. Please take a moment to read the following information on lead:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The City of Poughkeepsie is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

#### **Information on Fluoride**

Up until February 2008, our system was one of the many drinking water systems in New York State that provided drinking water with a controlled, low level of fluoride for consumer dental health protection. The fluoride was added by the Poughkeepsies' Water Treatment Facility before it was delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/L (parts per million). To ensure that the fluoride supplement in your water provided optimal dental protection, the State Department of Health required that the Joint Town and City of Poughkeepsie Water Treatment Facility monitor fluoride levels on a daily basis. During the period when fluoride was being added to the water, no monitoring test results showed levels of fluoride which approached the 2.2 mg/L MCL.

In February 2008, the Poughkeepsies' Water Treatment Facility stopped adding fluoride to the water. You may want to discuss this with your family dentist to see if some other form of fluoride supplement should be considered for your dental protection.

#### **Is our water system meeting other rules that govern operations?**

During 2018, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

#### **Do I need to take special precautions?**

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline at 1-800-426-4791.

#### **Why Save Water? How Do I Avoid Wasting It?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.
- You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:
- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Water your garden and lawn only when necessary. Remember that a layer of mulch in the flower beds and garden is not only aesthetically pleasing but will help retain moisture.
- Turn off the tap when brushing your teeth.
- Check your toilets for leaks by putting a few drops of food coloring in the tank; watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call us at the number listed at the beginning of this report if you have any questions.

## Addendum

### Poughkeepsies' Water Treatment Facility Table of Detected Contaminants 2018

| Contaminant   | Violation Yes/No | Sample Date(s)                               | Level Detected                                 | Unit of Measurement | MCLG | Regulatory Limit  | Likely Source of Contamination   |
|---|------------------|--|--|---------------------|------|---|--|
| <b>Plant Effluent - Inorganic Contaminants</b>  |                  |  |  |                     |      |   |  |
| Orthophosphate (reported as Phosphorus)   | N/A              | 2 per day                                    | Average = 0.659<br>Range = 0.420 to 1.25       | mg/L                | N/A  | N/A   | Orthophosphate is added at the Poughkeepsies' Water Treatment Facility to inhibit corrosion of lead piping in the distribution system.                   |
| Turbidity (Plant Effluent)  | No               | Continuous Monitoring                        | Average = 0.036<br>Range = 0.020 to 0.150      | NTU                 | N/A  | MCL = 1 NTU monthly average <sup>1</sup><br>MCL = 5 NTU two day average | Soil runoff  |
| Turbidity (Filter Effluent)   | No               | Continuous Monitoring                        | Average = 0.036<br>Range = 0.004 to 0.350      | NTU                 | N/A  | TT = 95% of samples < 0.3 NTU <sup>2</sup>                              | Soil runoff  |
| Aluminum  | No               | 1 per week                                   | Average = 34<br>Range = ND to 83               | ug/L                | 200  | N/A   | Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries   |
| Barium  | No               | 11/15/18                                     | 0.0159   | mg/L                | 2    | MCL = 2   | Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries   |
| Bromate   | No               | Monthly                                      | Average = 3<br>Range = ND to 12.5 <sup>3</sup> | ug/L                | N/A  | MCL = 10  | By-product of drinking water disinfection at treatment plants using Ozone.   |
| Chloride  | No               | 11/15/18                                     | 44.8   | mg/L                | 250  | N/A   | Naturally occurring or indicative of road salt contamination   |
| Nitrate   | No               | 11/15/18                                     | 0.33   | mg/L                | 10   | MCL = 10  | Runoff from fertilizer, Leaking septic tanks, sewage, erosion of natural deposits  |
| Sodium  | No               | Monthly                                      | Average = 26.7<br>Range = 26.7 to 37.4         | mg/L                | N/A  | N/A <sup>4</sup>  | Naturally occurring; Road salt; Water softeners; Animal waste  |
| Sulfate   | No               | 11/15/18                                     | 16   | mg/L                | N/A  | MCL = 250   | Naturally occurring  |
| <b>Plant Effluent - Disinfectants</b>   |                  |  |  |                     |      |   |  |
| Free Chlorine Residual  | No               | Continuous Monitoring                        | Average = 2.35<br>Range = 1.51 to 3.38         | mg/L                | N/A  | MCL = 4 <sup>5</sup>  | Water additive used to control microbes.   |
| <b>Plant Effluent - Disinfection Byproducts</b>   |                  |  |  |                     |      |   |  |
| Total Trihalomethanes (chloroform, bromo-dichloromethane, dibromochloro-methane, and bromoform) | No               | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Average = 7.63<br>Range = 3.09 to 14.4         | ug/L                | N/A  | MCL = 80 for four-quarter average                                       | By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter. |
| Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)      | No               | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Average = 7.1<br>Range = 4.7 to 8.7            | ug/L                | N/A  | MCL = 60 for four-quarter average                                       | By-product of drinking water disinfection needed to kill harmful organisms.  |
| <b>Plant Effluent - Radioactive Contaminants</b>  |                  |  |  |                     |      |   |  |
| Gross Alpha Plant Effluent  | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 4.96<br>Range = ND to 9.87           | pCi/L               | 0    | MCL = 15  | Erosion of natural deposits.   |
| <b>Raw Water - Radioactive Contaminants</b>   |                  |  |  |                     |      |   |  |
| Gross Alpha   | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 3.71<br>Range = ND to 6.33           | pCi/L               | 0    | MCL = 15  | Erosion of natural deposits.   |
| Gross Beta  | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 4.815<br>Range = ND to 8.89          | pCi/L               | 0    | 50 <sup>6</sup>   | Decay of natural deposits and man-made emissions.  |
| Uranium   | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 0.221<br>Range = 0.191 to 0.246      | ug/L                | 0    | 30  | Erosion of natural deposits  |

1. Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement on the plant effluent (0.15 NTU) occurred on 9/5/18. An MCL violation occurs when the average of all daily entry point analyses for the month exceed the MCL of 1 NTU or when the daily two-day average exceeds 5 NTU.
2. The turbidity of each filter is monitored to determine treatment compliance. State regulations require that turbidity must always be below 1 NTU. State regulations require that 95% of samples are below 0.3 NTU. In 2018, 99.996% of samples were less than 0.3 NTU. The highest filter turbidity reading (0.350 NTU) occurred on 9/6/18.
3. Bromate was detected above the MCL on 8/2/18 at a concentration of 12.5 ug/L. Although the MCL value was exceeded for the monthly testing, an MCL violation did not occur as the yearly average is used to determine compliance. Some people who drink water

- containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
4. Water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.
5. Value presented represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
6. The State considers 50 pCi/L to be the level of concern for beta particles.

#### Table Definitions

**NYSDOH:** New York State Department of Health

**USEPA:** United States Environmental Protection Agency

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in the drinking water.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**NTU (Nephelometric Turbidity Unit):** A measure of the clarity of the water. Turbidity in excess of 5.0 NTU is just noticeable to the average person.

**TT:** Treatment Technique

**N/A:** Not Applicable

**ND:** Not Detected

**mg/L (milligrams per liter):** Corresponds to one mass part in one million parts of another liquid (parts per million)

**µg/L (micrograms per liter):** Corresponds to one mass part in one billion parts of another liquid (parts per billion)

**pCi/L (Picocuries per liter):** A measure of the radioactivity in water.

**mrem/yr (millirems per year):** A measure of radiation absorbed by the body.

**ANNUAL WATER QUALITY REPORT FOR CALENDAR YEAR 2018**  
**POUGHKEEPSIE TOWNWIDE WATER DISTRICT**  
**1 Overocker Road**  
**Poughkeepsie, New York**  
**Federal Public Water Supply ID #NY1302812**

**Introduction:**

To comply with State regulations, the Poughkeepsie Townwide Water District annually issues this report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. Sampling and analyses are carried out routinely as directed by the Dutchess County Health Department and the New York State Department of Health and currently meet the drinking water standards.

If you have any questions about this report or concerning your drinking water, please contact Keith Ballard, Department Manager, at the Town of Poughkeepsie Water Department, at (845) 462-6535, or the Dutchess County Health Department at (845) 486-3404. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled meetings. Town of Poughkeepsie Board and Committee of the Whole meetings are scheduled on Wednesdays at 7:00 pm in the Town Hall at One Overocker Road in Poughkeepsie; please phone the Water Department to confirm meetings at (845) 462-6535. You may also visit the Poughkeepsies' Water Treatment Facility website at <http://www.pokwater.com>. Learn more about the water treatment plant by attending any of the regularly scheduled Joint Water Board meetings held the first Tuesday of every month in the conference room at the Joint Water Plant (behind Marist College); for further information about the Poughkeepsies' Water Treatment Facility, telephone the Joint Water Board Administrator's office at (845) 451-4173, ext. 2003.

**Where Does Our Water Come From?**

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the Environmental Protection Agency (EPA) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The source of water for the Town of Poughkeepsie is treated surface water (Hudson River) which is purchased from the jointly owned town and city treatment plant, Poughkeepsies' Water Treatment Facility. The Poughkeepsies' Water Treatment Facility utilizes conventional, state of the art, filtration process to treat the water supply. This process includes chemical application of polyaluminum chloride to stabilize the small particles in the raw water supply. Once stabilized, the particles are combined with an organic polymer and previously settled solids, then slowly mixed to form larger particles. The larger particles are then removed through settling. Following the settling process, the water is filtered through activated carbon and sand media that polishes the final product. Beginning in September 2016 the treatment plant upgrades were completed and an ozone treatment process was implemented after settling and before filtration. This process was added to reduce disinfection byproduct formation. Disinfection, the process used to kill disease producing organisms, is accomplished through application of ultraviolet light followed by a carefully monitored chlorination process. Post treatment includes the addition of phosphoric acid and sodium hydroxide. Phosphoric acid is added at 2.3 mg/L to reduce corrosion of customer's lead piping and fixtures. Sodium hydroxide is added when necessary to increase the treated water to a pH of 7.7 in effort to minimize corrosion of pipes within the distribution system and customers plumbing.

**Facts and Figures**

The Poughkeepsie Townwide Water District serves a population of approximately 45,000 through 10,535 service connections. In 2018 a total volume of 2,247,767,676 gallons of potable water was withdrawn from sources for the Town Water System. Of this total, 677,378,840 gallons was delivered to 3<sup>rd</sup> party customers and 1,570,388,836 gallons was delivered to Poughkeepsie Townwide Water District customers. The Town billed its customers for 1,555,410,648 gallons of water. Non-billed water was 14,978,188 gallons which were for losses due to the flushing program for water quality purposes, water main breaks, firefighting, and the ongoing fire hydrant maintenance program. This represents a 0.95% loss of water within the Town's Water System. The Town of Poughkeepsie employs an ongoing leak detection program to locate any system leaks and make repairs in a timely manner.

**Water Cost**

In 2018, the Town of Poughkeepsie billed its users based on quarterly water meter readings at the rate of \$2.50 per 100 cubic feet of water (or 748 gallons), with \$18.75 being the minimum rate for 0-750 cubic feet of water consumed.

**Facility Modification**

No facility modifications were made in 2018.

**Are there contaminants in our drinking water?**

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: Total Coliform Bacteria, Turbidity, Orthophosphate, Lead and Copper, Residual Chlorine, Total Trihalomethanes and Haloacetic Acids. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

The test data presented in this report cover solely the Poughkeepsie Townwide Water District distribution system. An addendum to this report contains data from the Poughkeepsies' Water Treatment Facility. Additional information about the water supplied by the Poughkeepsies' Water Treatment Facility may be found in the Annual Water Quality Report published by the Joint Town/City Water Board.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791, or the Dutchess County Health Department at 845-486-3404, or by viewing the EPA drinking water website, [www.epa.gov/safewater](http://www.epa.gov/safewater), and the New York State Health Department website, [www.health.ny.gov](http://www.health.ny.gov).

#### Salt Front Information

Our water is taken from the Hudson River Estuary, which is subject to increased chloride and sodium levels during low rainfall periods. In 2018, the facility did not experience a salt front episode (defined by USGS as chloride levels exceeding 100 mg/L). Our raw water was tested for sodium 12 times in 2018 with values from 19 mg/L to 37.4 mg/L and an average of 26 mg/L. If specific conductivity triggers were met, additional sodium analysis would take place.

During normal water years the sodium level varies from 15 – 25 mg/L with higher levels occurring during periods of low rainfall.

**Customers that are on a salt restricted diet should consult with their physician concerning sodium in their drinking water.** Information concerning sodium levels in your water can be obtained at any time by contacting the Water Plant Administrator, Randy Alstadt at 451-4173 x 2003.

#### EPA's Unregulated Contaminant Monitoring Rule 3 (UCMR3) and Rule 4 (UCMR4)

The purpose of the Unregulated Contaminant Monitoring Rule is to assist the EPA in determining the occurrence of suspected contaminants in drinking water and whether regulation is required. Every five years a new list suspected contaminants is developed. The contaminants are not regulated by the EPA or state and therefore do not currently have set drinking water standards. In September 2016, the Poughkeepsie Townwide Water District participated in the fourth and final round of UCMR3 sampling. In 2018, UCMR4 testing occurred from August through November. Contaminants detected are listed in the table. For more information on the testing and results please contact the department manager listed at the beginning of this report.

| Table of Detected Contaminants, Poughkeepsie Townwide Water District, 2018<br>Water Distribution System |                  |  |   |                 |      |                                   |  |
|---|------------------|--|---|-----------------|------|-----------------------------------|--|
| Contaminant   | Violation Yes/No | Sample Date(s)                               | Level Detected  | Unit of Measure | MCLG | Regulatory Limit                  | Likely Source of Contamination   |
| <b>Lead and Copper Monitoring</b>   |                  |  |   |                 |      |                                   |  |
| Copper  | No               | 11/4/16<br>thru<br>12/21/16                  | 0.079 <sup>1</sup><br>Range =<br>ND to 0.126  | mg/L            | 1.3  | AL=1.3                            | Corrosion of household plumbing systems; erosion of natural deposits.  |
| Lead  | No               | 11/4/16<br>thru<br>12/21/16                  | 2 <sup>2</sup><br>Range =<br>ND to 5  | ug/L            | 0    | AL = 15                           | Corrosion of household plumbing systems, erosion of natural deposits   |
| <b>Inorganic Contaminants</b>   |                  |  |   |                 |      |                                   |  |
| Orthophosphate (reported as Phosphorus)   | N/A              | 3 per week                                   | Average = 0.77<br>Range = 0.68 to 0.83  | mg/L            | N/A  | N/A                               | Orthophosphate is added at the Poughkeepsies' Water Treatment Facility to inhibit corrosion of lead piping in the distribution system.                   |
| Turbidity   | No               | 5 per week                                   | Average = 0.2<br>Range = ND to 1.3  | NTU             | N/A  | MCL = 5.0 <sup>3</sup>            | Soil runoff  |
| <b>Disinfection Byproducts</b>  |                  |  |   |                 |      |                                   |  |
| Free Chlorine Residual  | No               | minimum of 50 per month                      | Average = 1.3<br>Range = ND to 2.5  | mg/L            | N/A  | MCL = 4 <sup>4</sup>              | Water additive used to control microbes.   |
| Total Trihalomethanes (TTHMs -- chloroform, bromo-dichloromethane, dibromochloromethane, and bromoform) | No               | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Stage 2 Calculation <sup>5</sup><br>Highest LRAA = 61.6<br>(Range of detects = 21.3 – 92) | ug/L            | N/A  | MCL = 80 for four-quarter average | By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter. |

|  |    |  |  |      |     |   |  |
|--|----|--|--|------|-----|---|--|
| Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid) | No | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Stage 2 Calculation <sup>5</sup><br>Highest LRAA = 31<br>(Range of detects = 10.2 to 37.5) | ug/L | N/A | MCL = 60<br>for four-quarter<br>average | By-product of drinking water disinfection needed to kill harmful organisms.  |
| <b>Unregulated Contaminant Monitoring Rule (UCMR3)</b>                                     |    |  |  |      |     |   |  |
| Chromium, Total  | No | 03/14<br>06/14<br>09/14                      | Average = 0.25<br>Range = 0.22 to 0.32   | ug/L | 100 | MCL = 100                               | Erosion of natural deposits; Discharge from steel and pulp mills   |
| Strontium  | No | 03/14<br>06/14<br>09/14                      | Average = 134.5<br>Range = 114 to 151  | ug/L | N/A | N/A                                     | Naturally-occurring element in soil and bedrock and may dissolve entering groundwater; commercially used in making ceramics and glass products, pyrotechnics, paint pigments, fluorescent lights, and medicines. |
| Vanadium   | No | 03/14<br>06/14<br>09/14                      | Average = 0.27<br>Range = 0.24 to 0.3  | ug/L | N/A | N/A                                     | Erosion of natural deposits; found in fossil fuels   |
| Hexavalent Chromium  | No | 03/14<br>06/14<br>09/14                      | Average = 0.077<br>Range = 0.058 to 0.12   | ug/L | N/A | N/A                                     | Erosion of natural deposits; Discharge from steel and pulp mills   |
| Chlorate   | No | 03/14<br>06/14<br>11/14                      | Average = 287<br>Range = 190 to 450  | ug/L | N/A | N/A                                     | By-product of drinking water disinfection when sodium hypochlorite or chlorine dioxide is used   |
| 1,4-Dioxane  | No | 03/14<br>06/14<br>09/14                      | Average = 0.078<br>Range = ND to 0.081   | ug/L | N/A | MCL = 50                                | This compound may enter the environment through its use as a solvent and in textile processing, printing processes, and detergent preparations.  |
| Manganese  | No | 11/14/18                                     | 0.528  | ug/L | N/A | 300                                     | Naturally occurring; Indicative of landfill contamination  |
| Bromochloroacetic acid   | No | 11/14/18                                     | Average = 3.0<br>Range = 2.7 to 3.4  | ug/L | N/A | N/A                                     | By-product of drinking water disinfection needed to kill harmful organisms.  |
| Bromodichloroacetic acid   | No | 11/14/18                                     | Average = 4.6<br>Range = 4.13 to 5.14  | ug/L | N/A | N/A                                     | By-product of drinking water disinfection needed to kill harmful organisms.  |
| Chlorodibromoacetic acid   | No | 11/14/18                                     | Average = 0.763<br>Range = 0.730 to 0.794  | ug/L | N/A | N/A                                     | By-product of drinking water disinfection needed to kill harmful organisms.  |

#### Footnotes:

1. The level presented represents the 90th percentile of the 60 sites tested for copper. In this case, 60 samples were collected throughout the distribution system and the 90th percentile was the 54th highest value (0.079 mg/L). The action level for copper was not exceeded at any of the sites tested.
2. The level presented represents the 90th percentile of the 60 sites tested for lead. In this case, 60 samples were collected throughout the distribution system and the 90th percentile was the 54th highest value (2 ug/L). The action level for lead was exceeded at one of the sites tested.
3. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration system of the Poughkeepsie's Water Treatment Facility. In accordance with State regulations for distribution systems, we test for turbidity 5 days/week, 52 weeks/year. Results are reported for the year. Since the Town purchases its water from the Poughkeepsie's Water Treatment Facility, Treatment Technique regulations do not apply to the Town's distribution system. State regulations for distribution systems require that the monthly average for turbidity must be below 5 NTU.
4. The value reported represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
5. The regulation requires a Locational Running Annual Average (LRAA) be calculated at each site by averaging the results of the 4 most recent quarters. The LRAA reported in this table is the highest LRAA obtained in 2018.

#### Definitions:

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**CFU/100 mL:** Colony Forming Units per 100 milliliters of sample.

**LRAA:** Locational Running Annual Average; used to calculate Trihalomethane and Haloacetic Acid levels for reporting for the Stage 2 Disinfection Byproduct rule ("DBR Stage 2")

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**Milligrams per liter (mg/L):** corresponds to one part of liquid in one million parts of liquid (parts per million -- ppm).

**Micrograms per liter (ug/L):** corresponds to one part of liquid in one billion parts of liquid (parts per billion -- ppb).

**N/A:** Not Applicable.

**ND (Non-Detects):** Laboratory analysis indicates that the contaminant is not present.

**Nephelometric Turbidity Unit (NTU):** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**90th Percentile Value:** The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

**Picocuries per liter (pCi/L):** Picocuries per liter is a measure of the radioactivity in water.

**PtCo:** Platinum Cobalt Unit, a measure of color in water

**Running Annual Average (RAA):** This value is determined by first calculating the quarterly average of all 4 locations sampled and then averaging the 4 most recent quarterly averages.

**Locational Running Annual Average (LRAA):** This value is determined by averaging the 4 most recent quarterly results from one location.

#### **What does this information mean?**

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the state.

#### **Information on Lead**

We must provide information on lead in drinking water even though our last round of testing showed no problems. Please take a moment to read the following information on lead:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Poughkeepsie Townwide Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

#### **Information on Fluoride**

Up until February 2008, our system was one of the many drinking water systems in New York State that provided drinking water with a controlled, low level of fluoride for consumer dental health protection. The fluoride was added by the Poughkeepsies' Water Treatment Facility before it was delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/L (parts per million). To ensure that the fluoride supplement in your water provided optimal dental protection, the State Department of Health required that the Joint Town and City of Poughkeepsie Water Treatment Facility monitor fluoride levels on a daily basis. During the period when fluoride was being added to the water, no monitoring test results showed levels of fluoride which approached the 2.2 mg/L MCL.

In February 2008, the Poughkeepsies' Water Treatment Facility stopped adding fluoride to the water. You may want to discuss this with your family dentist to see if some other form of fluoride supplement should be considered for your dental protection.

#### **Is our water system meeting other rules that govern operations?**

During 2018, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

#### **Do I need to take special precautions?**

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline at 1-800-426-4791.

#### **Why Save Water? How Do I Avoid Wasting It?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

- Water your garden and lawn only when necessary. Remember that a layer of mulch in the flower beds and garden is not only aesthetically pleasing but will help retain moisture.
- Turn off the tap when brushing your teeth.
- Check your toilets for leaks by putting a few drops of food coloring in the tank; watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call us at the number listed at the beginning of this report if you have any questions.

#### Addendum

### Poughkeepsies' Water Treatment Facility Table of Detected Contaminants 2018

| Contaminant   | Violation Yes/No | Sample Date(s)                               | Level Detected                                 | Unit of Measurement | MCLG | Regulatory Limit  | Likely Source of Contamination   |
|---|------------------|--|--|---------------------|------|---|--|
| <b>Plant Effluent - Inorganic Contaminants</b>  |                  |  |  |                     |      |   |  |
| Orthophosphate (reported as Phosphorus)   | N/A              | 2 per day                                    | Average = 0.659<br>Range = 0.420 to 1.25       | mg/L                | N/A  | N/A   | Orthophosphate is added at the Poughkeepsies' Water Treatment Facility to inhibit corrosion of lead piping in the distribution system.                   |
| Turbidity (Plant Effluent)  | No               | Continuous Monitoring                        | Average = 0.036<br>Range = 0.020 to 0.150      | NTU                 | N/A  | MCL = 1 NTU monthly average <sup>1</sup><br>MCL = 5 NTU two day average | Soil runoff  |
| Turbidity (Filter Effluent)   | No               | Continuous Monitoring                        | Average = 0.036<br>Range = 0.004 to 0.350      | NTU                 | N/A  | TT = 95% of samples < 0.3 NTU <sup>2</sup>                              | Soil runoff  |
| Aluminum  | No               | 1 per week                                   | Average = 34<br>Range = ND to 83               | ug/L                | 200  | N/A   | Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries   |
| Barium  | No               | 11/15/18                                     | 0.0159   | mg/L                | 2    | MCL = 2   | Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries   |
| Bromate   | No               | Monthly                                      | Average = 3<br>Range = ND to 12.5 <sup>3</sup> | ug/L                | N/A  | MCL = 10  | By-product of drinking water disinfection at treatment plants using Ozone.   |
| Chloride  | No               | 11/15/18                                     | 44.8   | mg/L                | 250  | N/A   | Naturally occurring or indicative of road salt contamination   |
| Nitrate   | No               | 11/15/18                                     | 0.33   | mg/L                | 10   | MCL = 10  | Runoff from fertilizer, Leaking septic tanks, sewage, erosion of natural deposits  |
| Sodium  | No               | Monthly                                      | Average = 26.7<br>Range = 26.7 to 37.4         | mg/L                | N/A  | N/A <sup>4</sup>  | Naturally occurring; Road salt; Water softeners; Animal waste  |
| Sulfate   | No               | 11/15/18                                     | 16   | mg/L                | N/A  | MCL = 250   | Naturally occurring  |
| <b>Plant Effluent - Disinfectants</b>   |                  |  |  |                     |      |   |  |
| Free Chlorine Residual  | No               | Continuous Monitoring                        | Average = 2.35<br>Range = 1.51 to 3.38         | mg/L                | N/A  | MCL = 4 <sup>5</sup>  | Water additive used to control microbes.   |
| <b>Plant Effluent - Disinfection Byproducts</b>   |                  |  |  |                     |      |   |  |
| Total Trihalomethanes (chloroform, bromo-dichloromethane, dibromochloro-methane, and bromoform) | No               | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Average = 7.63<br>Range = 3.09 to 14.4         | ug/L                | N/A  | MCL = 80 for four-quarter average                                       | By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter. |
| Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)      | No               | 02/14/18<br>05/09/18<br>08/08/18<br>11/14/18 | Average = 7.1<br>Range = 4.7 to 8.7            | ug/L                | N/A  | MCL = 60 for four-quarter average                                       | By-product of drinking water disinfection needed to kill harmful organisms.  |
| <b>Plant Effluent - Radioactive Contaminants</b>  |                  |  |  |                     |      |   |  |
| Gross Alpha Plant Effluent  | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 4.96<br>Range = ND to 9.87           | pCi/L               | 0    | MCL = 15  | Erosion of natural deposits.   |
| <b>Raw Water - Radioactive Contaminants</b>   |                  |  |  |                     |      |   |  |
| Gross Alpha   | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 3.71<br>Range = ND to 6.33           | pCi/L               | 0    | MCL = 15  | Erosion of natural deposits.   |
| Gross Beta  | No               | 4/11/18<br>7/6/18<br>10/4/18                 | Average = 4.815<br>Range = ND to 8.89          | pCi/L               | 0    | 50 <sup>6</sup>   | Decay of natural deposits and man-made emissions.  |

|         |    |                              |  |      |   |    |                             |
|---------|----|------------------------------|--|------|---|----|-----------------------------|
| Uranium | No | 4/11/18<br>7/6/18<br>10/4/18 | Average = 0.221<br>Range = 0.191 to<br>0.246 | ug/L | 0 | 30 | Erosion of natural deposits |
|---------|----|------------------------------|--|------|---|----|-----------------------------|

1. Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement on the plant effluent (0.15 NTU) occurred on 9/5/18. An MCL violation occurs when the average of all daily entry point analyses for the month exceed the MCL of 1 NTU or when the daily two-day average exceeds 5 NTU.
2. The turbidity of each filter is monitored to determine treatment compliance. State regulations require that turbidity must always be below 1 NTU. State regulations require that 95% of samples are below 0.3 NTU. In 2018, 99.996% of samples were less than 0.3 NTU. The highest filter turbidity reading (0.350 NTU) occurred on 9/6/18.
3. Bromate was detected above the MCL on 8/2/18 at a concentration of 12.5 ug/L. Although the MCL value was exceeded for the monthly testing, an MCL violation did not occur as the yearly average is used to determine compliance. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
4. Water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.
5. Value presented represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.
6. The State considers 50 pCi/L to be the level of concern for beta particles.

#### Table Definitions

**NYSDOH:** New York State Department of Health

**USEPA:** United States Environmental Protection Agency

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in the drinking water.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**NTU (Nephelometric Turbidity Unit):** A measure of the clarity of the water. Turbidity in excess of 5.0 NTU is just noticeable to the average person.

**TT:** Treatment Technique

**N/A:** Not Applicable

**ND:** Not Detected

**mg/L (milligrams per liter):** Corresponds to one mass part in one million parts of another liquid (parts per million)

**µg/L (micrograms per liter):** Corresponds to one mass part in one billion parts of another liquid (parts per billion)

**pCi/L (Picocuries per liter):** A measure of the radioactivity in water.

**mrem/yr (millirems per year):** A measure of radiation absorbed by the body.